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EIGHT

Poverty and health: thirty years  
of progress?

Lucy Prior and David Manley

Introduction

Health is a marker of the development of societies (Marmot, 2007). The wealth and prosperity of nations are embodied in the welfare of its citizens (Hoff, 2008). Overall, health has improved over the course of the twentieth century for many countries, particularly those forming part of the Organisation for Economic Cooperation and Development (OECD) (Marmot, 2007). However, disparities in the distribution of poor health persist between and within countries. Systematic differences in the risk of suffering a multitude of physical and mental illnesses by socio-economic groups reflects the organisation of societies, and specifically the distribution of wealth, resources and opportunities. Interest in the relationship of poverty and health, therefore, has come to focus on a moral concern with inequalities and the unfair, avoidable social structuring of poor health (Braveman and Gruskin, 2003).

On an international scale, systematic patterning in health is demonstrated by the variations in life expectancies that are observed between countries; in 2013 the range in life expectancy at birth between countries was 37 years for men, and 41 years for women (WHO, 2015). Marked inequalities have also been observed within countries and even in cities. For instance, life expectancies in the most affluent areas of Glasgow were reported at 82 years, compared to 54 years in one of the most deprived areas (Hanlon et al, 2006). The life expectancy for individuals in some deprived areas of Scotland was thus worse than the average in India (Marmot, 2007).

Inequalities in a variety of health outcomes have been demonstrated with a range of socio-economic and status measures. The *Black Report* produced by the Working Group on Inequalities in Health helped invigorate research and policy interest in health inequalities by demonstrating disparities in mortality rates based on social class

(Townsend et al 1992). It identified material or socio-economic factors such as income, education and housing as the most important drivers of these inequalities. The WHO Commission on Social Determinants of Health compiled a wealth of evidence on the structuring of health by social conditions, demonstrating the 'poor health of the poor, the social gradient in health within countries, and the marked health inequities between countries are caused by the unequal distribution of power, income, goods, and services' (WHO 2008, p 1). UK inequalities in health have persisted and widened over time despite improvements in overall health, with enhancements in health for the poor failing to keep up with those enjoyed by the more advantaged (Graham, 2009; Smith et al, 2016).

Poverty represents a fundamental outcome of inequality, where people fall below the minimum standards deemed acceptable in a society (Mack and Lansley, 1985). The lack of financial and material resources that define poverty make it damaging to health. Individuals in poverty cannot afford the vital conditions for a healthy existence, such as decent housing, heating and diet (Mack and Lansley, 1985; Gordon, 2006). The plight of those in poverty is additionally compounded by perceptions of poorer social positioning, intensifying the negative psychosocial and health impacts these comparisons can induce (Runciman, 1966; Kuo and Chiang, 2013). Therefore, examining the health of those in poverty is a powerful tool for understanding the influence of social stratification on health.

Though poor health is most often considered a consequence of poverty, there is a school of thought which considers health as a *cause* of poverty. The 'health selection' hypothesis posits that those with poor health tend to drift down the social scale, leading to larger proportions of ill persons in lower social positions and poverty groupings. However, this explanation has largely been discounted as a having a substantial effect (Blane et al, 1993; Manor et al, 2003; Warren, 2009).

In the face of austerity measures, with past cuts to benefits evidenced as affecting those most in need the most severely (Stuckler and Basu, 2013), it is vitally important to understand the nature of the link between poverty and health. A report by the Institute for Fiscal Studies (Browne and Hood, 2016), projected household incomes at the bottom of the distribution will fail to keep up with forecasted overall growth in median income to 2020/21, increasing relative poverty. This forecast is attributed to planned cuts to benefits, which are also expected to increase child poverty (Browne and Hood, 2016). Further understanding will help to formulate and target social policies that aim to tackle inequalities in health and quality of life (Stewart et al, 2008).

In thematic sections centred on general health and mental health, this chapter will explore the relationship of current poverty measures, past poverty and changing circumstances, as well as key dimensions of social exclusion with health. Since questions on health in the PSE-UK 2012 survey are only asked of the adult population, all analyses reported below refer to people aged 18 or above.

## General health

Health is conceptualised as more than the mere absence of disease or illness: it is an all-encompassing state of physical, mental and social well-being. To align analyses with such multidimensional understandings, a subjective measure of health is beneficial. Self-reported health measures can simultaneously tap into socially contextualised personal appraisals of multiple health components (Bowling, 2005).

Single item self-rated health measures are used extensively to assess general health status and have been widely validated as predictors of mortality and various morbidities (Bowling, 2005; DeSalvo et al, 2006). The general health measure is taken from the self-reported responses to the question: 'How is your health in general. Is it...?' Answers were scored on a 5-point scale from 'very good' to 'very bad', with a mid-point of 'fair'. For the following analyses, general health is dichotomised to contrast having (relatively) bad health (a state of 'fair' or worse – 27 per cent) with good or very good health.

Additionally, overall health status is accessed through a binary measure of limiting long term illness (LLTI), created through combining responses to the questions 'Do you have any physical or mental conditions or illnesses lasting or expected to last for 12 months or more?' and 'Does [your condition or illness/do any of your conditions or illnesses] reduce your ability to carry-out day-to-day activities?'; 22% had a LLTI. LLTI provides an indication of poor health that impacts on everyday life, which is particularly important in regards to considering the interrelationship of social exclusion and health.

## Poverty and general health

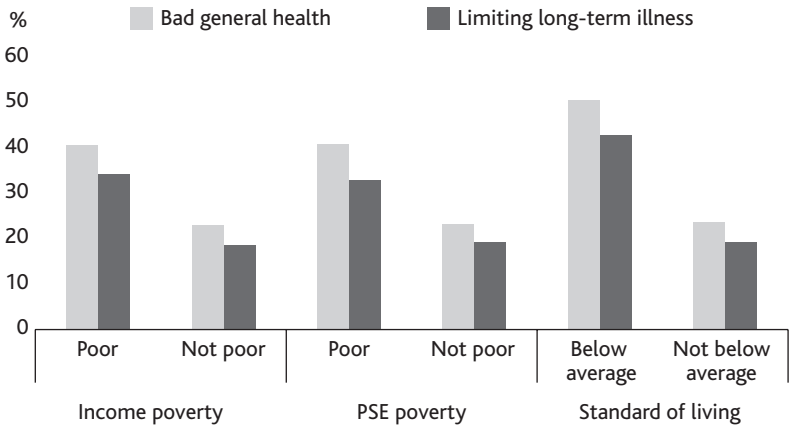
Descriptive results from the PSE-UK survey reinforce the picture of health inequalities demonstrated by other studies (Santana et al, 2002; Gunasekara et al, 2013; Saito et al, 2014) including previous *Breadline Britain* surveys (Gordon and Pantazis, 1997). However disadvantage is defined, the poor are disproportionately worse off in terms of their general health.

Figure 8.1 illustrates the extent of the inequality by three important measures of poverty: the UK government’s standard low-income poverty measure, based on a threshold of 60 per cent of median income after housing costs; the consensual poverty measure developed by the PSE research project; and a subjectively determined measure based on whether respondents rated their standard of living as below average or not. (See the Introduction for detailed definitions.)

It is clear that those who are more disadvantaged experience worse health. For those classified as poor by the PSE poverty and low income measures, 41 per cent report bad health, compared to 23 per cent for those who are not poor. The inequality in general health appears most marked for the subjective standard of living; the difference between those with a below average standard of living and those with average or better is 27 per cent. Limiting long-term illness (LLTI), which should capture problems with a greater ageing component, evidences the same trend of worse health for the more disadvantaged, though to a smaller extent in every case.

In order to develop a clearer picture of the nature of the disparities in health, it is necessary to control for the influence of key demographic and social factors. Health deteriorates with age, and at different rates for men and women, for example. Separate logistic regression models were run with general health and LLTI as the responses, controlling for age, sex, ethnicity, marital status, and household type. The first set

**Figure 8.1: Percentage of adults with bad general health and LLTI by poverty definition**



Note: Weighted cases between 8353 and 8365 for general health, and 8347 and 8361 for LLTI, depending on poverty measure.

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of models tested the impact of the PSE poverty measure on general health and LLTI. In the second set, the relationships of income and deprivation with general health were tested in a single logistic model with controls for the same set of socio-demographic factors (but without PSE poverty included).<sup>1</sup>

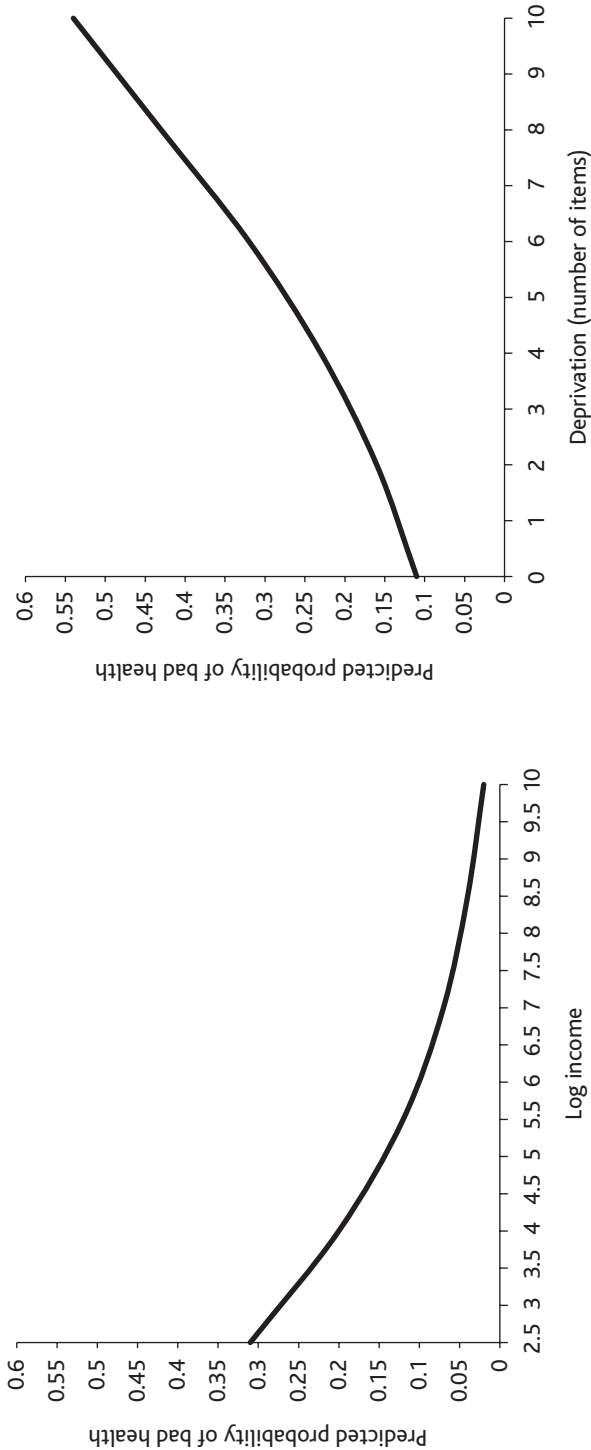
Even after parcelling out the influence of age and other socio-demographic characteristics, the poor have a higher likelihood of worse health than those not poor. Across all adults, the mean predicted probability of bad health is 23 per cent for the not poor and 44 per cent for those in poverty, while for LLTI the probabilities for not poor and poor are 19 per cent and 35 per cent respectively. The modelled relationships of income and deprivation to general health are depicted in Figure 8.2. They both show the expected associations: the probability of being in poor health falls as income increases but rises as deprivation increases. Deprivation seems to have a more pronounced relationship with general health than income. The change in the predicted probability is approximately 29 per cent across the income range, compared to 43 per cent for deprivation. This finding echoes results from New Zealand by Gunasekara et al (2013); they found moving into deprived circumstances was associated with a larger decline in self-rated health than a move into a low-income group.

### *Past poverty and current health*

Within the cross-sectional design of the PSE-UK, respondents were asked a set of questions relating to their past experiences of poverty as well as changes to their lives since last interview in the Family Resources Survey (FRS) (see the Introduction for details on the survey methodology). This offers the opportunity to signal how previous experiences of disadvantage are associated with current health. This is important in light of research which showcases the continuing influence of previous poverty on health, as well as the cumulative impact of longer periods spent in poverty (Benzeval and Judge, 2001; Ben-Shlomo and Kuh 2002).

PSE-UK participants were asked to reflect on their lifetime and state how often there had been periods when they had lived in poverty by the standards of that time. Figure 8.3 demonstrates how, as time spent in poverty increases, so does the percentage of respondents with bad general health and LLTI. For those who have never lived in poverty, the percentages of bad health and LLTI are 21 per cent and 17 per cent respectively. This shifts to 57% and 46% for those who have lived in poverty most of the time. Pantazis and Gordon (1997) reported a

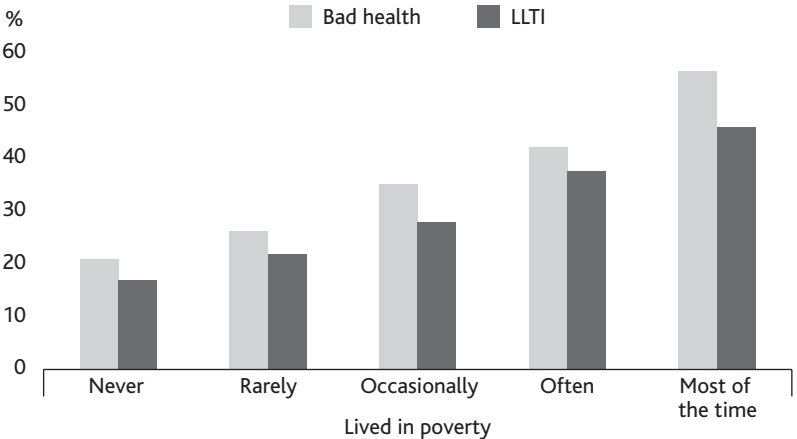
Figure 8.2: Predicted probability of being in bad health (by log income and deprivation index)



Note: For log income, predictions are based on persons with reference characteristics (40-year-old, white, married, male, living in a 1 or 2 adult household with no children or pensioners) and deprived of 0 items. For deprivation, predictions are based on adults with reference characteristics and mean income.

Source: [\[source needed for this figure?\]](#)

Figure 8.3: Percentage of adults with bad health and LLTI by history of poverty



Note: Weighted cases 8363 for general health, and 8359 for LLTI

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similar relationship of history of poverty in respect to longstanding illness; 25 per cent of those reporting never having lived in poverty had a longstanding illness compared to 52 per cent for persons considering themselves to have lived in poverty for most of the time.

The influence of past circumstances on current health can be further explored by utilising participants’ reports of whether their individual income had increased, decreased or stayed the same since the previous interview 12–18 months before. This measure provides an indication of the past financial situation of respondents, with those reporting an increase in income having been worse off previously; 40 per cent of adults reported an increase in income. The modelled relationship of a binary indicator of lower income in the past with bad health and LLTI appears to be significant, as tested in logistic models controlling for socio–demographic characteristics and PSE poverty. Across all modelled individuals, the mean predicted probability of bad general health for those who used to have a lower income was 32 per cent, compared to 28 per cent for those whose incomes were higher or the same. For LLTI, the respective mean predicted probabilities were 27 per cent and 22 per cent. These results support the lasting impact of historic circumstances on health.



## 1    *Social exclusion and general health*

2

3    Social exclusion offers a multidimensional appreciation for the  
4    domains through which different individuals may be excluded from  
5    full participation in society (Levitas et al, 2007). It is a broader concept  
6    than poverty, representing inequalities in the opportunities for and the  
7    distribution of social, cultural, and political resources and participation,  
8    alongside the material and economic factors more closely associated  
9    with poverty (Levitas et al, 2007; Bailey et al, 2016).

10    A vital dimension of social exclusion is economic participation,  
11    primarily through employment. Paid work is a major determinant  
12    of income and material circumstances, whilst poor health can restrict  
13    opportunities for labour market participation (see Chapter 6 for more  
14    discussion). In the PSE-UK survey, the worst health is displayed by  
15    those classed as permanently sick or disabled, at 92 per cent and 97 per  
16    cent for bad general health and LLTI respectively. Health deteriorates  
17    with age, and this is shown by the high proportions of retired adults  
18    with poor health in the PSE-UK: 45 per cent have bad general  
19    health and 39 per cent suffer a LLTI. Outside these categories, the  
20    unemployed show the highest proportions of poor health and LLTI,  
21    at 26 per cent and 21 per cent respectively, followed by the inactive  
22    (corresponding to students, those looking after home and family and  
23    other inactive) at 24 per cent for general health and 18 per cent for  
24    LLTI. Although those adults who are working, either full or part  
25    time, have the lowest proportions of bad self-rated health and LLTI (at  
26    14 per cent and 9 per cent), the difference to the unemployed group  
27    is fairly small, at 12 per cent for both health measures.

28    The PSE-UK survey additionally asked respondents how long  
29    they had been unemployed for over the last five years. This offers  
30    insight into the role of poor health in transitions to unemployment.  
31    Logistic regression models were run with general health predicting a  
32    dichotomised length of unemployment variable, contrasting six months  
33    or more of unemployment (13 per cent of the adult population) with  
34    less than six months. Age, sex, marital status, ethnicity, and socio-  
35    economic status (SES) are also included in the model. Results reveal  
36    that poor health status significantly predicts longer unemployment.  
37    Across all modelled adults recording bad health, the probability  
38    of experiencing six or more months of unemployment is 16 per  
39    cent, compared to 11 per cent for those with good health. This  
40    result corroborates findings from other studies on health selective  
41    employment transitions (Ki et al, 2013; Webber et al, 2015).

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Another important aspect of social exclusion is the living environment (see Chapter 9 for more discussion). In particular, the proximal household environment is an important influence on health (POST, 2011). Living in housing in a poor state is also a powerful marker of the inequality of disadvantage; having both a damp-free and a warm home have been consistently considered as necessities by the public (see Chapter 1). Participants of the PSE-UK survey were asked a range of questions relating to their living conditions. An examination of responses reveals a patterning of health by poor housing circumstances: 48 per cent of individuals who reported dissatisfaction with their housing circumstances were in bad health, compared to 26 per cent who were more satisfied; 39 per cent of respondents whose house was in a poor state of repair had poor health, compared to 26 per cent whose home was in a good or adequate state; and 33 per cent of participants whose home was too cold last winter reported bad health, in contrast to 24 per cent of individuals whose home was warm enough. Conditions such as damp, overcrowding, and poor maintenance can aggravate existing health conditions and precipitate experiences of ill health. In the PSE-UK survey, 34 per cent of the PSE poor and 31 per cent of the multiply deprived stated their housing situation had aggravated an existing health condition or brought on a new health issue, compared to 13 per cent and 8 per cent for the respective more advantaged groups. This represents a greater inequality than that reported in the 1990 *Breadline Britain* survey (Pantazis and Gordon, 1997).

## Mental health

Mental health forms an essential element of a multidimensional, overarching appreciation of health and well-being. The WHO estimates of the Disability-Adjusted Life Years (DALYs) demonstrate the major contribution of mental health issues to the burden of disease globally (WHO, 2016). Mental health conditions are also linked to heavy incidence of physical health conditions and treatments, increasing the overall cost of mental illness. A report by the Centre for Mental Health (Naylor et al, 2012) estimated that between £8 billion to £13 billion of NHS expenditure on long-term physical health conditions was linked to co-morbid mental health issues. Previous studies have explored relationships between poverty and mental health at the area level and individually, demonstrating associations of poverty with a variety of mental health conditions and service use (Payne,

1 1997; Eibner et al, 2004; Fone and Dunstan, 2006; Butterworth et al,  
2 2009).

3 Mental health within the PSE-UK survey was measured using  
4 the well-validated short form of the General Health Questionnaire  
5 (GHQ12). This instrument is used to indicate the presence of  
6 common mental disorder symptoms (Jackson, 2007). Respondents are  
7 asked a series of 12 questions, covering negative aspects such as ‘Have  
8 you recently felt constantly under strain?’ and positive elements, for  
9 instance ‘Have you recently been able to enjoy your normal day-to-  
10 day activities?’. Each item has four possible answers, along the lines of  
11 ‘not at all’, ‘no more than usual’, ‘rather more than usual’ and ‘much  
12 more than usual’. The following analysis implements the GHQ12 as a  
13 mental health continuum on a scale from 0 to 36,<sup>2</sup> with higher scores  
14 representing worse mental health. Additionally, where respondents had  
15 reported they suffered from a longstanding illness or condition, they  
16 could specify whether this took the form of a mental health condition  
17 (16 per cent of the adult population).

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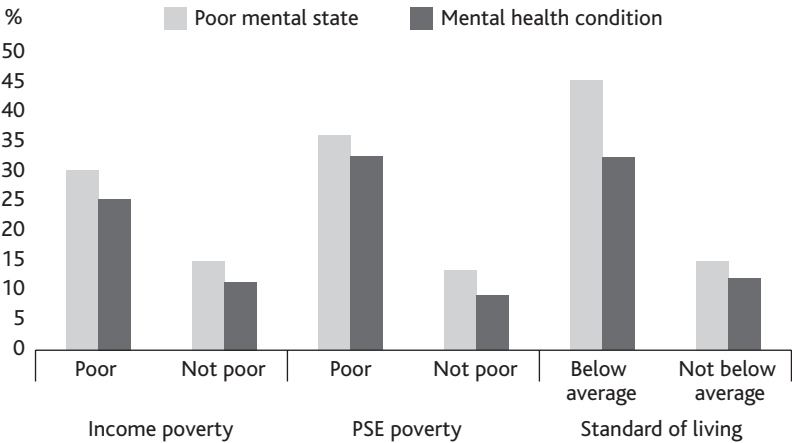
### 19 *Poverty and mental health*

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21 It is important to consider the dynamics of age with mental health  
22 and poverty definitions. Unlike general health and LLTI, mental  
23 health has a younger age profile, as shown by the proportion of adults  
24 who reported a longstanding mental health condition by age band:  
25 36 per cent of 18- to 24-year-olds had a serious mental health issue,  
26 compared to 25 per cent for those 45-54 years of age, and just 3 per  
27 cent for those 80 or more years old. Income measures of poverty are  
28 problematic in that they can overstate poverty in older age by failing to  
29 appropriately capture wealth in savings and assets accumulated over the  
30 life course. By comparison, measures driven primarily by deprivation,  
31 such as PSE poverty, highlight the younger poor; 30 per cent of 18- to  
32 24-year-olds are classified as poor on this measure, compared to 10 per  
33 cent of people aged 80 or more.

34 The relationships of mental health and poverty to age help explain  
35 the pattern of inequalities found when examining the proportion of  
36 respondents with a mental health condition and a poorer mental health  
37 state (here taken as a score of 18 or more on the GHQ scale – 19 per  
38 cent). Figure 8.4 demonstrates that inequalities in mental health appear  
39 less prominent when assessed through an income dimension. The  
40 difference in poor mental states is 15 per cent between those above  
41 and below the 60 per cent threshold, whereas the difference between  
42 the PSE poor and not poor is 23 per cent. This is in contrast to general

Figure 8.4: Percentage of adults with poor mental states and reporting a chronic mental health condition by poverty definition



Note: Weighted cases between 7909 and 7948 for poor mental state by the GHQ12 and 2801 and 2803 for longstanding mental health condition, depending on poverty measure.

Source: [\[source needed for this figure?\]](#)

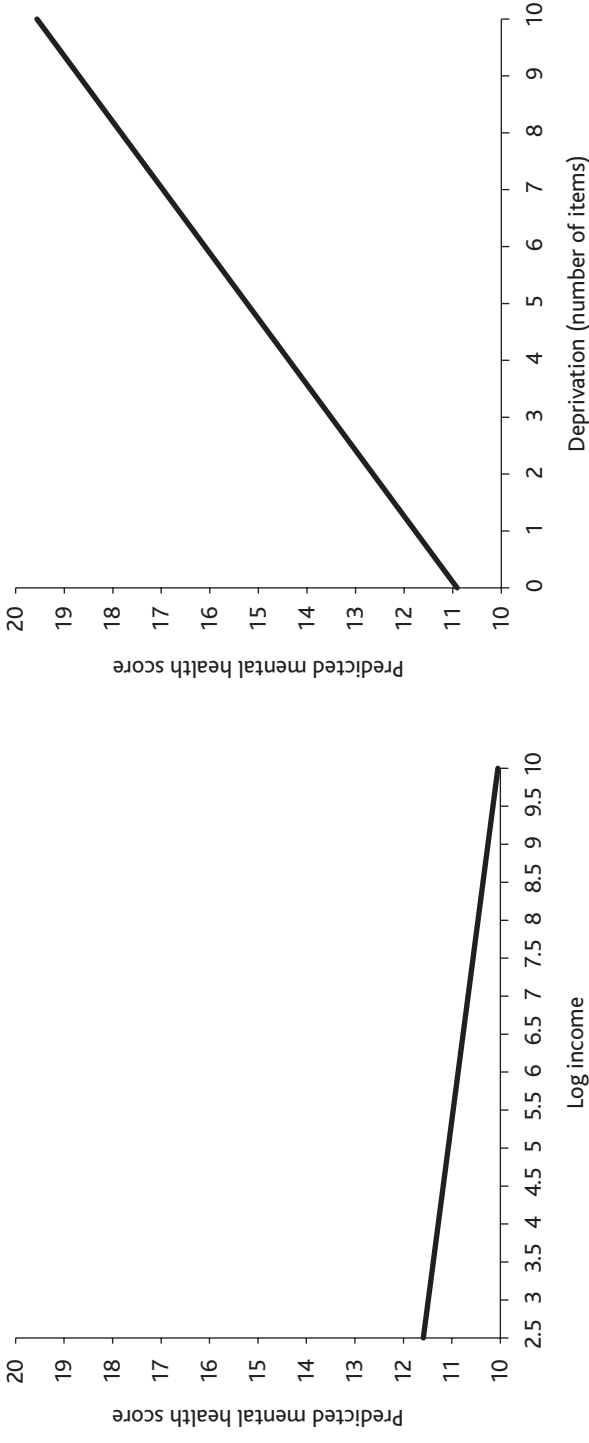
health and LLTI, where inequalities by income and PSE poverty were very similar. Overall, the case for the poor suffering worse mental health is substantiated in these descriptive analyses.

Given the indication of strong inequalities, it is important to explore models utilising the full scale of mental health. This is achieved using linear regression models predicting GHQ12 score by socio-demographics (age, sex, ethnicity, marital status, and household type) and a binary indicator of PSE poverty. From this model, it is clear that the poor are worse off. The estimated change in GHQ12 score for moving into the poverty grouping was 4.32 (99 per cent confidence intervals of 3.54 to 5.10). This signifies a significant effect of poverty. For all adult cases modelled, the effect of poverty corresponds to a mean predicted mental health score of 11 points for the not poor, compared to around 16 points for those in poverty.

The relationships of income and deprivation are examined in a linear regression model of GHQ12 score predicted by the same set of socio-demographic controls as previously, along with income (logged) and deprivation. Figure 8.5 shows that deprivation has a strong association with mental health; being more deprived relates to a markedly worse (higher) GHQ12 score. The predicted increase in metal health score for lacking a single extra item on the deprivation scale was 0.87 (99 per cent confidence intervals of 0.74 to 0.99). The models also revealed

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Figure 8.5: Predicted GHQ12 score (by log income and deprivation index) **[[would this title be clearer with specific mental health reference? Eg Predicted mental health score...]]**



Note: **[[does this figure need a note (compare Figure 8.2)?]]**

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higher incomes were associated with better mental health scores but here the gradient was very shallow; the expected decrease in GHQ12 score for a 1 unit increase in log income was 0.21 points (99 per cent confidence intervals of -0.62 to 0.21). This suggests the association of mental health and income was not significant, as well as being relatively small in size. More proximal, material aspects such as deprivation are stronger factors in predicting mental health than income. This reinforces the need to consider poverty measures beyond the standard income threshold.

### *Past poverty and mental health*

Mental health exhibits a similar relationship with history of poverty as general health, with a clear increase in the proportion of individuals rated as having a poor mental state as time spent in poverty increases. The percentage classed as having a poor mental state is only 12 per cent for those who have never lived in poverty, compared to 45 per cent for those who reported having lived in poverty most of the time. Similarly, the proportion of adults with a longstanding mental health condition is 10 per cent for those who do not consider themselves to have lived in poverty, and 39 per cent for those who have experienced the most spells of poverty. This substantiates the importance of poverty duration in predicting mental illness.

Exploring the relationship of previous income with mental health reveals a different pattern of association to that found for general health and LLTI. In models controlling for socio-demographics and PSE poverty status, having a lower income in the recent past was not associated with significantly worse mental health score (-0.46 point estimated change with 99 per cent confidence intervals of -1.04 to 0.12), whereas it was associated with worse general health. Conversely, a binary measure of previously higher income showed a relationship with worse mental health, relating to a 1.51 point increase in GHQ12 score (99 per cent confidence intervals of 0.68 to 2.34). These results suggest, in contrast to those for general health, that it is not necessarily previous *levels* of income which are important to mental health, but *changes* in income. A decline in income may itself be a source of stress and anxiety, or else may be associated with stressful circumstances, such as job loss, which negatively impact on mental well-being.

## *Social exclusion and mental health*

Social exclusion and mental health are highly interlinked (Morgan et al, 2007), with those having mental health conditions identified as a major excluded group in society (SEU, 2004). Poor mental health can be both a cause and a consequence of social exclusion (Payne, 2006). Stigma and discrimination within the structure of society promote the exclusion of those with mental health problems (SEU, 2004). Mental health can also impact on opportunities and capacities to participate fully in the employment sector, with knock-on effects on income and material resources (Payne, 2006). Meanwhile, experiencing social exclusion can incite negative effects on mental health through feelings of low self-esteem, isolation and lack of support (Stewart et al, 2008).

The relationship between labour market exclusion and mental health is particularly complex, with mental health problems potentially acting as both cause and consequence of unemployment (see Chapter 6 for more discussion). We can gain insight into this complex relationship by examining the proportions of mental health issues by different categories of employment status. The lowest proportion of poor mental health was displayed by the retired group (11 per cent). This finding is likely explained by the younger age profile of mental health issues. The largest proportion of mental health issues resides in those categorised as permanently sick or disabled, although the percentage is around 57 per cent for poor mental state by the GHQ12, compared to over 90 per cent for general health and LLTI. Other economically inactive adults also showed relatively high rates of poor mental health, at 22 per cent. Not participating or the inability to participate in the labour market could restrict opportunities for positive self-esteem and social contact, while the stigma and low self-esteem associated with being inactive could negatively impact mental health and well-being. It should be noted that a proportion of the permanently sick or disabled will have chronic mental illness that perpetually excludes them from work. Mental health problems make up a growing proportion of long-term absences from work (CBI, 2008; Black and Frost, 2011).

A clear finding is the large proportion of adults (41 per cent) with a poor mental state within the unemployed category. This is markedly higher than the proportion seen in the working group (17 per cent), and is also higher than the percentages seen for general health and LLTI in the unemployed group. In an analysis of the PSE 1999 survey, Payne (2006) similarly found the highest proportion of respondents with a mental disorder in the unemployed category. It appears mental health disparities by employment status have increased since 1999;

the gap between the working and the unemployed was approximately 17 per cent in the PSE 1999 survey, compared to 24 per cent for the PSE-UK 2012. It should be noted that Payne (2006) operationalised mental health through the binary GHQ12 scoring system, with a threshold score of 4 or more indicative of the presence of common mental disorder symptoms.

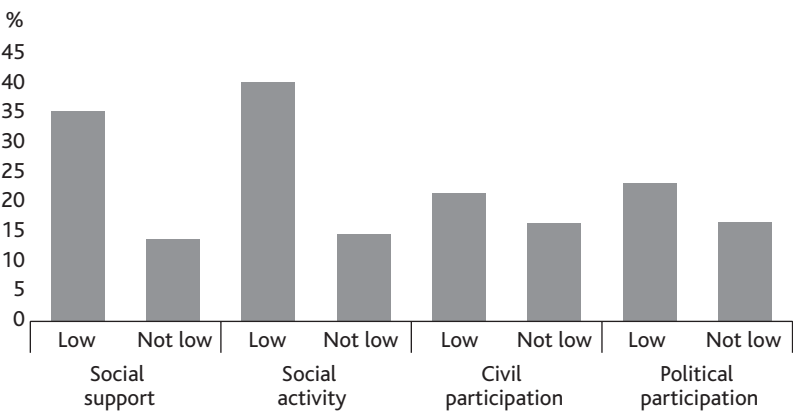
It is possible to further test the relationship of labour market exclusion to mental health by using history of unemployment (as a continuous scale of months of unemployment) to predict GHQ12 score, controlling for socio-demographics and current poverty status. The estimated coefficient for unemployment suggested a significant 0.03 point (99 per cent confidence intervals of 0.00 to 0.06) increase in GHQ12 score for each additional month of unemployment. This result substantiates the importance of unemployment for the mental health of individuals (Paul and Moser, 2009; Urbanos-Garrido and Lopez-Valcarcel, 2015).

As with general health, the local living environment can be a strong determining factor in generating variation in mental health. Thermal comfort, crowding, dampness and general state of repair are recognised as predictors of mental health (Evans et al, 2003). The proportion of individuals with poor mental health by standard of housing reveals an increasing gradient from good through adequate to poor, with percentages increasing from 15 to 26 to 37 per cent. Results from the 1990 *Breadline Britain* survey based on feelings of depression showed proportions of approximately 11, 20 and 41 per cent (Payne, 1997). Therefore, it appears the 2012 housing gradient in mental health is shallower than in 1990. Thanks to initiatives such as the Decent Homes Programme (POST, 2011), the condition of housing stock in the UK has improved over time. This means that what individuals class as 'poor' housing by today's standards could be better than what individuals in 1990 categorised as poor, hence the decreased mental health disparity.

Mental health is inherently a social phenomenon (Morgan et al, 2007) and social capital may act as a potential buffer to negative consequences from experiences of exclusion (Kawachi and Berkman, 2001). Therefore, exploring the social aspects of inclusion in terms of activity, participation and support is particularly relevant to mental health. Within the PSE-UK survey, participants were asked a series of questions relating to social support and social activity, as well as civic and political participation. Summary scales were created along each of these dimensions, affording the opportunity to analyse these different aspects of inclusion. Figure 8.6 shows the proportions of individuals



**Figure 8.6: Percentage of adults with poor mental states by social resources**



*Note:* Weighted cases between 7909 and 7955 depending on measure.

*Source:* [\[source needed for this figure?\]](#)

classified as having a poor mental health state or not by binary indicators for low levels of social resources.

It is apparent that lower levels of social resources result in higher proportions of poorer mental health. However, civil participation (covering participation in organisations such as sports clubs and youth groups) and political participation (representing activities such as attending public meetings and demonstrations) appear to have weaker relations with mental health: the range for each group is small (5 per cent and 6 per cent respectively). These aspects of social inclusion could be considered as relating to structural dimensions of social capital (Harpham, 2008); this has previously been found to have weaker relationships to mental health (Fujiwara and Kawachi, 2008). The relationships of social activity and social support with mental health were substantiated in separate models of GHQ12 score controlling for PSE poverty status and the socio-demographic characteristics of individuals. Both appeared as significant predictors of mental health.

## Conclusion

The persistent picture of health inequalities is reinforced by these findings; the poor are more likely to suffer worse general health, experience a LLTI, and have a poorer mental health state or longstanding mental health condition. The disproportionate disadvantage of the poor appears consistently across different definitions of poverty as well as after controlling for socio-demographic characteristics of individuals.

Examinations of changing circumstances and past poverty further reinforce the issues of worse health for those in poor or worsening situations and provide stronger evidence for causal links from poverty to poor health.

The results also indicate the vital importance of considering broader aspects of poverty and social exclusion when relationships with health are of interest. Income measures still dominate much work on the effects of poverty. However, in this study, income was not found to be a significant predictor of mental health state once individual-level characteristics were controlled for, and income also demonstrated a weaker influence on general health than the consensual deprivation index. Furthermore, initial assessment of relationships of health to dimensions of social exclusion reveal interesting patterns by the health measure utilised. Though LLTI and general health showed consistently similar trends, assessments of mental health should take special consideration of the impacts of unemployment and social resources.

The conclusion remains the same as that offered by the previous *Breadline Britain* and PSE surveys: there are marked health inequalities associated with poverty and social exclusion in the UK. Despite 30 years of research and policy since the 1983 *Breadline Britain* survey, the poor are still suffering disproportionately worse general and mental health. Tackling issues of poverty and social exclusion remains the pathway to helping address such inequalities in health.

## Notes

<sup>1</sup> The natural log of net weekly income after housing costs (PSE equivalised) is the income measure. Deprivation is a scale from 0 to 10 or more, indicating the number of items considered as necessities that adult participants lacked. Linear relationships of log income and deprivation with the log odds of bad health are assumed.

<sup>2</sup> There has been some concern raised over the slightly higher-than-expected reporting of mental health conditions in the PSE-UK, when using the binary scoring system for the GHQ12 and a cut-off threshold of 4. See Nandy et al for a discussion.

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